

holes 148, 150 in the cams 144, 146. Thereafter, the teeth 134 on the base 126 of the guide member 124 are moved out of engagement with the teeth 122 of the guide track 120. This configuration is shown specifically in FIG. 8. At this point, the guide member 124/locking lever 140 combination is not locked in place within the guide track 120 and can be moved to another desired location along a curved axis extending through the guide track 120. This movement simultaneously moves the tube platform 22 to the same position since the tube platform 22 is attached to the guide member 124 through the locking lever 140 as discussed above. After the guide member 124/locking lever 140 combination is moved to the new location, the locking lever 140 is rotated once again to position the flat surfaces 152, 154 of the cams 144, 146 in engaging contact with the outer surface of the guide track portion 20 as shown in FIGS. 6 and 7. The tube platform 22 will remain in this new position until the steps discussed above are repeated.

The compression members 156, 158 on the cams 144, 146 help to insure a tight fit when the locking lever 140 is moved to the locked position shown in FIG. 7. The compression member 160 on the upper surface of the handle 142 of the locking lever 140 helps to insure a tight fit between the locking lever 140 and the tube platform 22 located thereabove. Although it is desirable to permit the tube platform 22 to pivot about an axis extending through the pivot shaft 136, so that the angle of entry of the tube platform 22 into a patient's mouth can be adjusted, it is also desirable to reduce significant free play therebetween through the use of compression member 160.

The use of the endotracheal tube holder 10 in accordance with the present invention with a patient 170 is shown in connection with FIG. 10. The faceplate 12 is positioned against the patient's face with cushions 39, 40 and 41 contacting the face of the patient 170, with the first side portion 16 and second side portion 18 of the faceplate 12 on opposite sides of the patient's mouth, and with the guide track portion 20 extending along the patient's chin and beneath the patient's lower lip. The bite block 66 of the tube platform 22 is positioned within a patient's mouth. Straps 43 and 44 are attached to the faceplate 12 by passing them through strap slots 24 and 26 and around raised ribs 28 and 30, respectively, and attaching the free ends of straps 43 and 44 thereto. The neck brace 42 of the mounting harness 14 is positioned comfortably behind the neck of the patient and straps 43 and 44 are adjusted appropriately to provide a secure, yet comfortable fit of the faceplate 12 to the patient 170. An endotracheal tube 172, inserted through the patient's mouth and down the patient's trachea, is laid along the tube platform 22 between arms 70 and 72 of the bite block 66 and above cross bar 76, above the gripping members 100 and 102 within the sidewalls 48 and 50, and above the base 46 of the tube platform 22. It is preferred that the arms 70 and 72 of the bite block 66 be higher than the diameter of the endotracheal tube 172 so that the patient 170 can bite down on the bite block 66 without unduly compressing the endotracheal tube 172. The projections 110 on the outer surface of the gripping members 100 and 102 help to keep the endotracheal tube 172 from sliding along the tube platform 22. The locking tabs 82 and 88 are used to securely affix the endotracheal tube 172 to the tube platform 22 and within sidewalls 48 and 50. Initially, locking tab 82 is wrapped around the endotracheal tube 172 and the tip 86 of locking tab 82 is passed through opening 95 of

locking tab 88. Locking tab 82 is then stretched over flange 56 on sidewall 50 and an appropriate one of slots 84 of locking tab 82 is connected to prong 58 on flange 56 to secure locking tab 82 thereto. Thereafter, tab 96 of locking tab 88 is wrapped about the endotracheal tube 172, over locking tab 82 and over flange 52 and on sidewall 48. An appropriate one of slots 98 in locking tab 88 is connected to prong 54 on flange 52 to secure locking tab 88 thereto. In this manner, the endotracheal tube 172 is securely positioned to a patient 170 and at a particular location with respect to the patient's mouth.

After a particular period of time, the tube platform 22 can be moved to a different position as discussed above to thereby move the endotracheal tube 172 and the bite block 66 to another location with respect to the patient's mouth and lips. In this manner, medical personnel can assure that the tube platform 22 does not rest against the patient in the same location for an unduly extended period of time which, in turn, prevents tissue damage to the lip and mouth cells. Movement of the endotracheal tube 172 from one position to another can be made easily and without significantly disturbing the patient. Moreover, most of the patient's mouth remains uncovered and reduces total stress thereon and permits easy access to the patient's mouth for other medical treatments. By permitting the tube platform 22 to rotate about an axis passing through the pivot shaft 136, positioning of the endotracheal tube 172 within the patient's mouth in a new position is facilitated.

Although the present invention discloses the use of a toothed track and complementary toothed guide member to hold the tube platform 22 in a particular position on the faceplate 12, the present invention is not so limited. Any type of locking arrangement would be satisfactory as long as the tube platform 22 can be moved to different positions along the guide track 120 and locked in place to the faceplate 12.

It can be seen that the endotracheal tube holder described herein permits the tube to be moved to different positions with respect to the patient's mouth and lips. The tube can be moved between a large number of positions, yet leaves the patient's mouth uncovered and accessible. The tube holder is easy to use and install and is comfortable to the patient, and a tube attached thereto can be moved with little or no disturbance to the patient.

Having described above the presently preferred embodiments of the present invention, it is to be understood that it may be otherwise embodied within the scope of the appended claims.

I claim:

1. An endotracheal tube holder comprising:

- a) a faceplate configured to be positioned against a patient's face and adjacent the patient's mouth, said faceplate including a guide track portion having an elongated guide track therein, with said guide track portion configured to be positioned beneath the patient's mouth;
- b) an endotracheal tube platform attached to the guide track portion of said faceplate and configured to carry an endotracheal tube thereon;
- c) slide means for moving said endotracheal tube platform along said guide track; and
- d) locking means for locking said endotracheal tube platform to one of a plurality of locations along said guide track.

2. The endotracheal tube holder of claim 1 wherein said faceplate includes a first side portion and a second